

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

To:

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## PCT

### WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing  
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference  
see form PCT/ISA/220

**FOR FURTHER ACTION**  
See paragraph 2 below

International application No.  
PCT/GB2005/001009

International filing date (day/month/year)  
17.03.2005

Priority date (day/month/year)  
31.03.2004

International Patent Classification (IPC) or both national classification and IPC  
INV. G06N5/00

Applicant  
BRITISH TELECOMMUNICATIONS PUBLIC LIMITED COMPANY

**1. This opinion contains indications relating to the following items:**

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☒ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☐ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

**2. FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

**3. For further details, see notes to Form PCT/ISA/220.**

Name and mailing address of the ISA:



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Date of completion of  
this opinion

See form  
PCT/ISA/210

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**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/GB2005/001009

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**Box No. I Basis of the opinion**

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1. With regard to the **language**, this opinion has been established on the basis of:
  - ☒ the international application in the language in which it was filed
  - ☐ a translation of the international application into , which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1 (b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:
    - ☐ a sequence listing
    - ☐ table(s) related to the sequence listing
  - b. format of material:
    - ☐ on paper
    - ☐ in electronic form
  - c. time of filing/furnishing:
    - ☐ contained in the international application as filed.
    - ☐ filed together with the international application in electronic form.
    - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/GB2005/001009

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**Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability**

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The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of

- ☒ the entire international application
- ☐ claims Nos.

because:

- ☒ the said international application, or the said claims Nos. 1-50 relate to the following subject matter which does not require an international search (*specify*):

**see separate sheet**

- ☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):
- ☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed (*specify*):
- ☐ no international search report has been established for the whole application or for said claims Nos.
- ☐ a meaningful opinion could not be formed without the sequence listing; the applicant did not, within the prescribed time limit:
  - ☐ furnish a sequence listing on paper complying with the standard provided for in Annex C of the Administrative Instructions, and such listing was not available to the International Searching Authority in a form and manner acceptable to it.
  - ☐ furnish a sequence listing in electronic form complying with the standard provided for in Annex C of the Administrative Instructions, and such listing was not available to the International Searching Authority in a form and manner acceptable to it.
  - ☐ pay the required late furnishing fee for the furnishing of a sequence listing in response to an invitation under Rules 13ter.1(a) or (b).
- ☐ a meaningful opinion could not be formed without the tables related to the sequence listings; the applicant did not, within the prescribed time limit, furnish such tables in electronic form complying with the technical requirements provided for in Annex C-bis of the Administrative Instructions, and such tables were not available to the International Searching Authority in a form and manner acceptable to it.
- ☐ the tables related to the nucleotide and/or amino acid sequence listing, if in electronic form only, do not comply with the technical requirements provided for in Annex C-bis of the Administrative Instructions.
- ☐ See Supplemental Box for further details

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING  
AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/GB2005/001009

**Re Item III.**

Claims 1-50 constitute subject-matter for which the International Preliminary Examining authority is not required to carry out an international preliminary examination, Article 34(4)(a)(I) PCT, the reasons are explained below:

Claims 1-17, and 32-40 relate respectively to a method of

- "determining a path along some of plurality of points in a virtual environment",
- "determining a path along some of plurality of points in a representation of a real or a virtual environment",
- "controlling the field of view of a virtual entity travelling through a virtual world".

These methods are purely mathematical theories that result in the calculation of a "path", a "route" or "field of view" (claim 17). The mathematical theories include "selecting a start point and a destination point" among "a plurality of initially defined points", "generating a plurality of additional points" along a "line of sight link between two existing points", where the line of sight is also initially defined, and "calculating" a "path based on any combination of new and/or initially defined points". The features of dependent claims 2, 4-9, 11-15 and 33-38 are also features of mathematical theories related to the way in which additional points are "generated".

Claim 3 defines that the "virtual environment comprises a representation of a virtual world". Examples of such a real environment are given in the description of the present application and are: "route planner" (see page 4 and page 31), "history building or design for a future building, or a house that is for sale" (see page 9). However, the mere fact that the virtual environment in which a path is calculated by a mathematical theory does represent some real world, does not imply that the result of the mathematical theory has an effect of a technical character on the real world that is represented. As a matter of facts, the claims do not define any effect of a technical character of the methods once the path is actually calculated. The description does not allow either to define a technical problem that would be solved by the method claimed. In particular, the problems to be solved by the present application that are provided in the description are:

- "provide an automated pathfinding system for the inexperienced user to help them navigate through the virtual world, allowing them to overcome problems of lack of

familiarity and any frustrations with the traditional interface of self-navigation" (see page 2),  
- "the result in both cases is for the user to become more disoriented, and to lose their sense of direction" (see page 2),

These problems are not of a technical character. In fact, the output of the methods calculating a path in a virtual environment are to be interpreted by the user for purely mental acts. Such mental acts are to be oriented and get familiar with the virtual world in order to be able to further navigate in it. The output of the methods is not linked in any automatic way to provoke a technical effect on the represented real environment.

It is further defined that the input of the methods is "input" by a "human user" (see description page 11), this is defined by claim 10. this feature does also not solve any problem of a technical character.

The same applies, to the corresponding apparatus claims 30, 31 and system claims 17, 18-29, 41-44, and to corresponding storage medium claims 45, 48, computer program claims 46, 49 and computer data claims 47, 50.

The corresponding system and apparatus, however, could involve an effect of a technical character when the instruction of "calculating the path" is actually executed (on a computer). Such effects may cover a small memory space to store the data structure containing the points, or a short processing time when calculating the path. These effects could then lead to a problem of a technical character to be solved. However, none of these effects are supported by the description of the present application, in which no statement about memory space or processing time of the proposed mathematical theory when executed on a computer can be found.

As a consequence, claims 1-50 need not be the subject of international preliminary examination, see Rule 66.1(1)(e) PCT and Rule 66.2(a)(I)PCT.